Obtaining Bioactive Compounds of *Stevia rebaudiana* (Bertoni.) Callus using Leaf discs as Explants

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Stevia rebaudiana is a herbaceous plant that belongs to Family Asteraceae. Bioactive compounds that cause its sweetness are known as steviol glycosides. Stevia leaves are the major source of steviol glycosides. Due to the difficulties in propagation of *S. rebaudiana*, callus culture has been identified as an efficient alternative method for production of steviol glycosides. In this study, reliable protocol was developed for callus induction from leaf disc explants and possibility of obtaining bioactive compounds was tested. Seeds were surface sterilized and cultured on Murashige and Skoog (MS) medium supplemented with different concentrations of gibberellic acid (GA3) for seed germination. It was observed that seed germination is not affected by GA3 but the seedling height. Leaf discs were taken from in vitro germinated seedlings and cultured on MS medium supplemented with different concentrations of 6 -benzylaminopurine (BAP) and naphthaleneacetic acid (NAA). Out of different growth regulator combinations, MS medium supplemented with 2.0 mg/L BAP and 1.0 mg/L NAA found to be the best medium for callus induction. Calli were screened for the presence of various bioactive compounds using Gas Chromatography - Mass Spectrometry (GC-MS). The qualitative results showed that the extracts contained glycosides, phenol, tannins and saponins, thereby making callus as one of the sources for extraction of secondary metabolites. Thus, it could be suggested that with the global changes in climate, although the plant growth and survival is affected, callus cultures of *S. rebaudiana* would be an alternative for continuous supply of sweetener source for human consumption.